

## **Faculty of Engineering**

### **ASPIRE Summer Research Program 2026-2027**

Project Title: Wavepacket scaling laws for supersonic jets

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#### **Objective**

Outline the main objective of the project and what it will accomplish.

#### **Project Details**

This is an extension of Antonialli's 2021 AIAAJ paper (<https://doi.org/10.2514/1.J059599>) which looked at amplitude scaling of PSE wavepackets, using SPOD modes from the Bres  $M = 0.4$  and  $M = 0.9$  LES databases. Our group has three supersonic LES databases (ideally-expanded, heated ideally-expanded, and heated over-expanded), which allows us to look at the amplitude scaling of supersonic jets.

#### **Project Timeline**

TBC

#### **Prerequisites**

MAE2402 or equivalent.

#### **Student Placement Agreement**

A student placement agreement must be signed by the project supervisor and the student prior to commencement of the ASPIRE program.

**[LV0554-72741 ASPIRE Program Co-Curricular-Student-Placement-Agreement-Short-term.docx](#)**

#### **Additional Information**

Interview required if student is not already engaged with Shock Lab.